

WHAT IS CLAIMED IS:

1. An apparatus for providing voice signals from a telecommunications switch, comprising:

5 an input port operable to receive an unbundled analog line from the telecommunications switch, the analog line carrying a voice signal;

an analog-to-digital converter unit operable to convert the voice signal carried on the analog line into a digital format;

10 a compressing unit operable to place the voice signal into a compressed format;

a packetizing unit operable to place the voice signal into a packet format.

15 2. The apparatus of Claim 1, further comprising:

a switching matrix operable to route the voice signal from the analog-to-digital converter unit to one of a plurality of compressors in the compressing unit.

20 3. The apparatus of Claim 2, wherein each of the plurality of compressors in the compressing unit performs a different compression type.

25 4. The apparatus of Claim 3, wherein one of the different compression types is 64 kilobits per second pulse code modulation.

30 5. The apparatus of Claim 3, wherein one of the different compression types is 32 kilobits per second adaptive differential pulse code modulation.

35 6. The apparatus of Claim 3, wherein one of the different compression types is 16 kilobits per second compression.

7. The apparatus of Claim 1, further comprising:  
a switching matrix operable to route the voice signal  
from the compressing unit to one of a plurality of  
packetizers within the packetizing unit.

5

8. The apparatus of Claim 7, wherein each packetizer  
in the packetizing unit places the voice signal into a  
different packet format.

10

9. The apparatus of Claim 8, wherein one of the  
different packet formats is asynchronous transfer mode.

10. The apparatus of Claim 8, wherein one of the  
different packet formats is Internet Protocol.

15

11. The apparatus of Claim 8, wherein one of the  
different packet formats is frame relay.

20

12. The apparatus of Claim 1, further comprising:  
an output multiplexer operable to receive a plurality  
of voice signals from the packetizing unit, the output  
multiplexer operable to selectively multiplex different  
voice signals together for output onto one of a plurality  
of output lines.

25

13. The apparatus of Claim 1, wherein the analog-to-  
digital converter unit includes a plurality of analog-to-  
digital converters, each analog-to-digital converter  
operable to receive one of a plurality of unbundled analog  
lines received at the input port from the  
telecommunications switch, each analog-to-digital converter  
operable to place a voice signal carried over its  
associated unbundled analog line into a digital format.

RECORDED IN U.S. PATENT AND TRADEMARK OFFICE

14. The apparatus of Claim 13, further comprising:  
a first switching matrix operable to route voice  
signals from any of the plurality of analog-to-digital  
converters to any of a plurality of compressors in the  
compressing unit, each compressor operable to place voice  
signals into different compressed formats.

15. The apparatus of Claim 14, further comprising:  
a second switching matrix operable to route voice  
signals from any of the plurality of compressors to any of  
a plurality of packetizers in the packetizing unit, each  
packetizer operable to place voice signals into a different  
packet format.

16. The apparatus of Claim 1, wherein the analog-to-digital converter unit includes a ring detection unit, the ring detection unit operable to determine that a voice signal is present on the unbundled analog line.

17. The apparatus of Claim 15, wherein the voice signal is accompanied by a distinctive ring, the distinctive ring being associated with one of a plurality of telephone numbers assigned to the unbundled analog line, the ring detection unit operable to identify the distinctive ring and determine which one of a plurality of subscriber units the voice signal is to be routed.

18. The apparatus of Claim 17, wherein four telephone numbers are assigned to the unbundled analog line.

19. The apparatus of Claim 17, wherein the unbundled analog line is an integrated services digital network basic rate interface line wherein two voice channels are carried simultaneously.

20. The apparatus of Claim 17, wherein voice signals of a second one of the plurality telephone numbers is carried on an available unbundled analog line when the voice signals of the first one of the plurality of telephone numbers is being carried on the unbundled analog line.

21. A method of providing voice signals from a telecommunications switch, comprising:

10 receiving an unbundled analog line from the telecommunications switch, the analog line carrying a voice signal;

15 converting the voice signal carried on the analog line into a digital format;

placing the voice signal into a compressed format;

20 placing the voice signal into a packet format.

22. The method of Claim 21, further comprising:

25 selecting one of a plurality of compression techniques in order to place the voice signal into the compressed format.

23. The method of Claim 22, wherein one of the plurality of compression techniques is 64 kilobits per second pulse code modulation.

24. The method of Claim 22, wherein one of the plurality of compression techniques is 32 kilobits per second adaptive differential pulse code modulation.

30 25. The method of Claim 22, wherein one of the plurality of compression techniques is 16 kilobits per second compression.

26. The method of Claim 21, further comprising:  
selecting one of a plurality of packetizing techniques  
to place the voice signal into the packet format.

5 27. The method of Claim 26, wherein one of the  
different packetizing techniques is asynchronous transfer  
mode.

10 28. The method of Claim 26, wherein one of the  
different packetizing techniques is Internet Protocol.

29. The method of Claim 26, wherein one of the  
different packetizing techniques is frame relay.

15 30. The method of Claim 21, further comprising:  
multiplexing the voice signal with other voice  
signals.

20 31. The method of Claim 30, wherein the multiplexing  
step includes interleaving packets of the voice signal with  
packets of other voice signals.

25 32. The method of Claim 30, further comprising:  
selecting one of a plurality of output lines to  
transfer the voice signal.

30 33. The method of Claim 20, further comprising:  
identifying a ring signal accompanying the voice  
signal.

34. The method of Claim 33, further comprising:  
determining a destination for the voice signal in  
response to the ring signal.

35. The method of Claim 34, wherein the ring signal is one of a plurality of distinctive rings, each distinctive ring associated with a telephone number assigned to the unbundled analog line.